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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/934,401	08/21/2001	Charles D. Royalty	7784-000304	8117

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EXAMINER
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ZHOU, TING

ART UNIT	PAPER NUMBER
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2173

DATE MAILED: 06/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/934,401

Applicant(s)

ROYALTY, CHARLES D.

Examiner

Ting Zhou

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. The Request for Continued Examination (RCE) filed on 1 April 2005 under 37 CFR 1.53(d) based on parent Application No. 09/934,401 is acceptable and a RCE has been established. An action on the RCE follows.
2. The amendments filed on 1 April 2005, submitted with the filing of the RCE have been received and entered. Claims 1 and 3-21 as amended are pending in the application.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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3. Claims 1, 7 and 12-18 are rejected under 35 U.S.C. 102(e) as being anticipated by McElreath U.S. Patent 6,401,013.

Referring to claims 1, 17 and 18, McElreath teaches a method comprising providing an aircraft having a certified flight deck display (column 2, lines 25-27 and column 3, lines 28-31), providing an avionics display having a display area that is capable of displaying information from a non-certified source (column 3, lines 28-32 and 57-65), providing a data connection between the avionics display and the non-certified source (column 1, lines 51-52), providing information from the non-certified source to the avionics display (column 3, lines 57-65); limiting space on the certified flight deck display in which information can be displayed so that less than the entire display area displays the information (arranging the avionics display by splitting the screens and separately displaying the information from the certified and non-certified sources so that only a portion of the display area displays information from the non-certified source) (column 4, lines 9-21); and indicating to a user that application spoofing is possible by partitioning the display area so that at least a portion of the display area cannot display the information from the non-certified source (displaying information from a laptop PC, i.e. non-certified source and on-board FAA equipment, i.e. certified source, using a split-screen arrangement) (column 4, lines 4-32). This is further shown in Figure 1.

Referring to claim 7, McElreath teaches a visual display monitor and computer processor that limits the display area in which the information can be displayed (arranging the avionics display by splitting the screens and separately displaying the information from the certified and non-certified sources so that only a portion of the display area displays information from the non-certified source) (column 4, lines 9-21).

Referring to claim 12, McElreath teaches a method comprising providing an avionics display that is capable of displaying information from a non-certified source (displaying information from a laptop computer) (column 3, lines 28-32 and 57-65) and establishing rules that dictate when the avionics display can display the information (a menu for controlling the display of information dictates the display of information from the laptop) (column 4, lines 4-21) and preventing the display of information when the rules dictate that the avionics display should not display the information so that application spoofing cannot occur (splitting the integrated cockpit display so that a part of the screen, i.e. one of the split screens is for displaying FAA certified information, and therefore prevented from displaying information from the laptop, assuring the integrity of the displayed information and preventing corruption caused by the laptop PC; in addition, preventing the display of information from the laptop PC on the screen via shutting down the non-certified source of information, i.e. the laptop, during certain times, such as during take-offs, approaches and landings) (column 1, lines 37-41, column 4, lines 2-32).

Referring to claim 13, McElreath teaches reviewing applicable government regulations that govern the operation of an aircraft (FAA certified information) and determining when the regulations require the avionics display to display a certified display (a menu for controlling the integrated display can be used to display a certified display according to factors such as government, or FAA regulations) (column 4, lines 1-31).

Referring to claim 14, McElreath teaches identifying periods of operation of an aircraft when an operator of the aircraft should not be allowed to access the information (such as during take-offs and landings) (column 1, lines 35-40).

Referring to claim 15, McElreath teaches a computer processor performing the steps of preventing the displaying of the information from the non-certified source (splitting the integrated cockpit display so that a part of the screen, i.e. one of the split screens is for displaying FAA certified information, and therefore prevented from displaying information from the laptop, assuring the integrity of the displayed information and preventing corruption caused by the laptop PC; in addition, preventing the display of information from the laptop PC on the screen via shutting down the non-certified source of information, i.e. the laptop, during certain times, such as during take-offs, approaches and landings) (column 1, lines 37-41, column 4, lines 2-32).

Referring to claim 16, McElreath teaches terminating a data connection between the avionics display and the non-certified source of information so that the avionics display does not receive information from the non-certified source (controlling the display of information on the screen via shutting down the non-certified source of information, i.e. the laptop during certain times, such as during take-offs, approaches and landings) (column 1, lines 37-41, column 4, lines 2-32 and column 6, lines 13-45).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 3-6, 8, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over McElreath U.S. Patent 6,401,013, as applied to claims 1 and 17 above, and further in view of Doll et al. European Patent 429,387 (hereinafter "Doll").

Referring to claims 3, 4 and 19, McElreath teaches all of the limitations as applied to claims 1 and 17 above. However, McElreath fails to explicitly teach providing the non-certified source with a false indication of the size of the display area or a false display address so that the non-certified source is not capable of addressing the entire display area. Doll teaches a display system partitioned to display information from a secure and non-secure source separately (Doll: column 1, lines 51-55 and column 2, lines 1-3 and further recited in the Abstract) similar to that of McElreath. In addition, Doll further teaches providing the non-certified source with a false indication of the size of the display area or a false display address so that the non-certified source is not capable of addressing the entire display area (limiting the display of information from the non-secure sources to only a portion of the display area, namely, outside the inner area reserved for information from secure sources) (Doll: column 1, lines 51-55, column 2, lines 1-3, column 8, lines 16-22 and further recited in the Abstract). It would have been obvious to one of ordinary skill in the art, having the teachings of McElreath and Doll before him at the time the invention was made, to modify the partitioning of the avionics display system of McElreath to include limiting the non-secure source from addressing the whole display area, as taught by Doll. One would have been motivated to make such a combination as a security measure to ensure that the use of non-certified sources of information will not corrupt any avionics equipment which is onboard the aircraft and certified by the Federal Aviation Administration (FAA).

Referring to claims 5 and 6, McElreath teaches all of the limitations as applied to the claims above. However, McElreath fails to explicitly teach providing a false horizontal and vertical display size so that the non-certified source is not capable of addressing the entire display area. Doll teaches a display system partitioned to display information from a secure and non-secure source separately (Doll: column 1, lines 51-55 and column 2, lines 1-3 and further recited in the Abstract) similar to that of McElreath. In addition, Doll further teaches providing a false horizontal and vertical display size so that the non-certified source is not capable of addressing the entire display area (limiting the horizontal or vertical display of information from the non-secure sources to only a portion of the display area, namely, the horizontal and vertical areas outside the inner area reserved for information from secure sources) (Doll: column 1, lines 51-55, column 2, lines 1-3, column 8, lines 16-22 and further recited in the Abstract). It would have been obvious to one of ordinary skill in the art, having the teachings of McElreath and Doll before him at the time the invention was made, to modify the partitioning of the avionics display system of McElreath to include limiting the non-secure source from addressing the whole display area, as taught by Doll. One would have been motivated to make such a combination as a security measure to ensure that the use of non-certified sources of information will not corrupt any avionics equipment, which is onboard, the aircraft and certified by the Federal Aviation Administration (FAA).

Referring to claims 8 and 20, McElreath teaches all of the limitations as applied to claims 1 and 17 above. Specifically, McElreath teaches displaying a certified display on the display area and maintaining the displaying of the certified display on the display area while simultaneously displaying the information from the non-certified source and arranging the display area so that



the non-certified information is visible on the avionics display and at least a portion of the certified display is visible on the avionics display (arranging the avionics display by splitting the screens and separately displaying the information from the certified and non-certified sources so that only a portion of the display area displays the non-certified source) (McElreath: column 4, lines 9-21). However, McElreath fails to explicitly teach displaying non-certified information on the display area in front of the certified display. Doll teaches a display system partitioned to display information from a secure and non-secure source separately (Doll: column 1, lines 51-55 and column 2, lines 1-3 and further recited in the Abstract) similar to that of McElreath. In addition, Doll further teaches displaying the non-secure information in front of the certified information so that the non-secure information is visible on the display and at least a portion of the secure information is visible on the display (the display is divided into two display areas, an inner area and a outer area; the inner area can display information without restriction but only secure information can be displayed outside the inner area) (Doll: column 1, lines 51-55, column 2, lines 1-3, column 8, lines 16-22 and further recited in the Abstract). It would have been obvious to one of ordinary skill in the art, having the teachings of McElreath and Doll before him at the time the invention was made, to modify the partitioning of the avionics computer display system of McElreath to include display of information from the non-certified source in front of the certified source, as taught by Doll. One would have been motivated to make such a combination as a security measure to ensure that at least some of the certified information can always be viewed on the display so that the use of non-certified sources of information will not corrupt any displayed information or avionics equipment which is onboard the aircraft and certified by the Federal Aviation Administration (FAA).

5. Claims 9-10 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over McElreath U.S. Patent 6,401,013, as applied to claims 1 and 17 above, and Oran et al. U.S. Patent 5,757,371 (hereinafter "Oran").

Referring to claims 9 and 21, McElreath teaches all of the limitations as applied to claims 1 and 17 above. Specifically, McElreath teaches the ability to display non-certified and certified information on the display screen (McElreath: column 4, lines 9-21). However, McElreath fails to explicitly teach displaying a visual indicator on the display area whenever the information is being displayed. Oran teaches a method for displaying information on the screen (Oran: column 2, lines 12-14 and further shown in Figure 13) similar to that of McElreath. In addition, Oran further teaches displaying a visual indicator on the display area whenever the information is being displayed (visual indicators displayed for each active information source, or application that has a displayed window) and preventing the display of the information from blocking the visual indicator so that the visual indicator is always visible on the display area when the information is being displayed (displaying the visual indicators in the taskbar so that it cannot be obscured by the information being displayed and is therefore always visible when the application has an active window displaying information) (Oran: column 2, lines 3-21 and further shown in Figure 13). It would have been obvious to one of ordinary skill in the art, having the teachings of McElreath and Oran before him at the time the invention was made, to modify the computer system for displaying information taught by McElreath to include the display of visual indicators whenever the information is displayed of Oran. One would have been motivated to make such a

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combination in order to allow users to be able to easily decipher when information from certain sources are being displayed; this would allow them to always be aware of where the information displayed is coming from, helping them to decide whether it is reliable.

Referring to claim 10, McElreath teaches all of the limitations as applied to claim 1 above. Specifically, McElreath teaches the ability to display non-certified and certified information on the display screen (McElreath: column 4, lines 9-21). However, McElreath fails to explicitly teach displaying a visual indicator on a portion of the display area that is not used to display the information whenever the information is being displayed. Oran teaches a method for displaying information on the screen (Oran: column 2, lines 12-14 and further shown in Figure 13) similar to that of McElreath. In addition, Oran further teaches displaying the visual indicator on a portion of the display area that is not used to display the information so that the visual indicator is always visible when displaying the information (displaying the visual indicators in the taskbar so that it cannot be obscured by the information being displayed and is therefore always visible when the application has an active window displaying information) (Oran: column 2, lines 3-21 and further shown in Figure 13). It would have been obvious to one of ordinary skill in the art, having the teachings of McElreath and Oran before him at the time the invention was made, to modify the computer system for displaying information taught by McElreath to include the display of visual indicators on the taskbar whenever the information is displayed of Oran. One would have been motivated to make such a combination in order to allow users to be able to easily decipher when information from certain sources are being displayed; this would allow them to always be aware of where the information displayed is coming from, helping them to decide whether it is reliable.

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over McElreath U.S. Patent 6,401,013 and Oran et al. U.S. Patent 5,757,371 (hereinafter "Oran"), as applied to claims 1 and 9 above, and Hanafee et al. U.S. Patent 6,342,926 (hereinafter "Hanafee").

Referring to claim 11, McElreath and Oran teach all of the limitations as applied to claims 1 and 9 above. However, McElreath fails to explicitly teach displaying the visual indicator on a portion of the display area that is used to display the information and superimposing the visual indicator in front of the information being displayed. Hanafee teaches a graphical user interface for displaying information on the screen (Hanafee: column 1, lines 59-63 and Figure 3) similar to that of McElreath and Oran. In addition, Hanafee further teaches displaying the visual indicator on a portion of the display area that is used to display the information and superimposing the visual indicator in front of the information being displayed so that the visual indicator is always visible when displaying the information (displaying a special event indicator in front of the displayed information via superimposing the indicator on the information displayed on the screen) (Hanafee: column 1, lines 59-63, column 4, lines 22-27 and Figure 3). It would have been obvious to one of ordinary skill in the art, having the teachings of McElreath, Oran and Hanafee before him at the time the invention was made, to modify the graphical user interface for displaying information of McElreath and Oran to include the display of a visual indicator on a portion of the display area that is used to display the information taught by Hanafee. One would have been motivated to make such a combination in order to automatically display indicators in a way that will be immediately noticed by the user, alerting the user when special events requiring attention/interaction have occurred.

***Response to Arguments***

7. Applicant's arguments with respect to claims 1, 11-12 and 17 have been considered but are moot in view of the new ground(s) of rejection. Upon closer examination of the McElreath reference, the examiner respectfully assert that McElreath teaches the limitations of the independent claims, specifically, McElreath teaches partitioning the display area so that at least a portion of the display area cannot display the information. McElreath teaches that various techniques of assuring integrity of the displayed information and preventing corruption FAA certified avionics equipment caused by the non-certified laptop PC , as recited in column 4, lines 2-4 and 25-28; one of the techniques of assuring integrity and preventing data corruption is by partitioning the display screen via split screens, separately showing information from the non-certified laptop PC and the certified onboard equipment, as recited in column 4, lines 4-32; since the display is split into two portions, namely a portion that displays information from certified sources and a portion that displays information from the non-certified source in hopes of preventing data corruption, it is inherent that the split portion displaying information from FAA certified equipment does not display information from the non-certified laptop computer, thereby assuring integrity of the certified information. In addition, the examiner respectfully points out that claim language such as language directed toward intended use (i.e. "indicating to a user that application spoofing is possible") merely suggests limitations or makes limitations optional. In using claim language directed towards intended use, applicant has not required steps to be performed or limited an apparatus to a particular structure (see MPEP 2106).

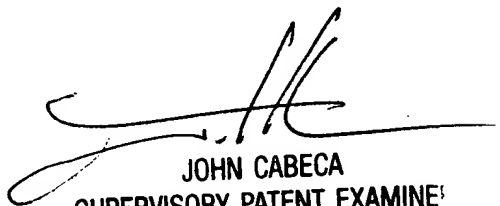
***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ting Zhou whose telephone number is (571) 272-4058. The examiner can normally be reached on Monday - Friday 7:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cabeca can be reached at (571) 272-4048. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-4058.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TZ

  
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